

This listing of claims is to replace the claims filed in the International Application PCT/CA2005000527.

Listing of Claims:

Claim 1. (Original) A supported catalyst comprising:

- a transition metal oxide; and
- a transition metal aluminate.

Claim 2. (Original) The supported catalyst of claim 1, wherein the transition metal of the transition metal aluminate and transition metal oxide is selected from the group consisting of nickel, cobalt, copper, chromium, iron, manganese, platinum, palladium, rhodium and ruthenium.

Claim 3. (Original) The supported catalyst of claim 2, wherein the transition metal is nickel.

Claim 4. (Original) The supported catalyst of claim 1, wherein the transition metal aluminate is from about 10% to about 90% by weight of the supported catalyst.

Claim 5. (Currently Amended) The supported catalyst of claim 1-~~or~~-4, wherein the transition metal oxide is from about 10% to about 90% by weight of the supported catalyst.

Claim 6. (Original) The supported catalyst of claim 1, further comprising a rare-earth metal oxide.

Claim 7. (Original) The supported catalyst of claim 6, wherein the rare-earth metal oxide is selected from the group consisting of oxides of scandium, yttrium, lanthanum, lanthanide metals and mixtures thereof.

Claim 8. (Original) The supported catalyst of claim 7, wherein the rare-earth metal oxide is lanthanum oxide.

Claim 9. (Original) The supported catalyst of claim 3, wherein the rare-earth metal oxide is lanthanum oxide.

Claim 10. (Original) The supported catalyst of claim 6, wherein the transition metal aluminate is from about 10% to about 60% by weight of the supported catalyst.

Claim 11. (Currently Amended) The supported catalyst of claim 6-~~or 10~~, wherein the transition metal oxide is from about 10% to about 80% by weight of the supported catalyst.

Claim 12. (Currently Amended) The supported catalyst of claim 6,~~11 or 12~~, wherein the rare-earth metal oxide is from about 1% to about 10% by weight of the supported catalyst.

Claim 13. (Original) The supported catalyst of claim 10, wherein the transition metal aluminate is from about 30% to about 50% by weight of the supported catalyst.

Claim 14. (Original) The supported catalyst of claim 11, wherein the transition metal oxide is from about 15% to about 30% by weight of the supported catalyst.

Claim 15. (Original) The supported catalyst of claim 12, wherein the rare-earth metal oxide is from about 0.5% to about 2% by weight of the supported catalyst.

Claim 16. (Currently Amended) The supported catalyst of ~~any one of~~ claims 1-6, comprising a mixture of transition metal alumina and transition metal aluminate.

Claim 17. (Currently Amended) The supported catalyst of ~~any one of~~ claims 16, wherein the mixture of transition metal alumina and transition metal aluminat~~e~~ is in a ratio of from about 1:1 to about 1:4.

Claim 18. (Original) The supported catalyst of claim 6 further comprising at least one of a transition metal oxide-rare-earth metal, a rare-earth metal-aluminate, a metal oxide-rare-earth metal-aluminate, a rare-earth metal oxide-aluminate, a rare-earth metal-alumina, a metal oxide-rare-earth metal-alumina, and a rare-earth metal oxide-alumina.

Claim 19. (Original) The supported catalyst of claim 1, wherein the supported catalyst has a surface area of from about 10 m²/g to about 500 m²/g.

Claim 20. (Original) The supported catalyst of claim 1, wherein the supported catalyst has a surface area of from about 140 m²/g to about 150 m²/g.

Claim 21. (Original) The supported catalyst of claim 6, wherein the supported catalyst comprises peaks in the powder x-ray diffraction pattern having the following 2θ± values: 19.1° (± 0.2), 31.5° (± 0.2), 37.1° (± 0.2), 45.0° (± 0.2), 59.7° (± 0.2), 65.8° (± 0.2), 75.6° (± 0.2), 77.9° (± 0.2), and 83.0° (± 0.2).

Claim 22. (Currently Amended) The supported catalyst of claim 1-~~or~~-6, further comprising at least one of a rare-earth metal aluminate and a rare-earth metal aluminide.

Claim 23. (Original) A supported catalyst comprising:

from about 10% to about 80% by weight of nickel oxide;
from about 1% to about 10% by weight of lanthanum oxide; and
from about 10% to about 60% by weight of nickel aluminate.

Claim 24. (Original) The supported catalyst of claim 23, further comprising at least one of a lanthanum aluminate and a lanthanum aluminide.

Claim 25. (Original) A process for making a supported catalyst comprising:
combining a catalytic active component, a catalyst support optionally containing a promoter therein, and an acid material to form a slurry;
adjusting the slurry to a pH of about 7 to about 8; and
recovering the supported catalyst from the slurry.

Claim 26. (Original) A process for making a supported catalyst comprising:
dispersing a catalytic active component within pores of a catalyst support, wherein the catalyst support optionally contains a promoter therein; and
converting the catalytic active component to an active metal complex intermediate at a pH of about 7 to about 8, the active metal complex intermediate coating surfaces of the catalyst support.

Claim 27. (Currently Amended) The process of claim 25-~~or~~-26, further comprising calcining the supported catalyst.

Claim 28. (Original) The process of claim 27, wherein the supported catalyst is calcined at a temperature of from about 800°C to about 970°C.

Claim 29. (Original) The process of claim 27, wherein the supported catalyst is calcined at about 960 °C.

Claim 30. (Currently Amended) The process of claim 27,~~-28-er-29~~, wherein the supported catalyst is calcined in the presence of an oxidizing gas.

Claim 31. (Original) The process of claim 25, wherein the pH of the slurry is adjusted by adding a basic material to the slurry.

Claim 32. (Original) The process of claim 31, wherein the pH of the slurry is adjusted by adding a basic material to the slurry and heating the slurry.

Claim 33. (Currently Amended) The process of claim 25-~~or~~-26, wherein the catalytic active component is a transition metal salt.

Claim 34. (Original) The process of claim 33, wherein the transition metal salt is selected from the group consisting of transition metal oxides, transition metal nitrates, transition metal carbonates, transition metal oxalates, and transition metal formates.

Claim 35. (Original) The process of claim 33, wherein the transition metal of the transition metal salt is selected from the group consisting of nickel, cobalt, copper, chromium, iron, manganese, platinum, palladium, rhodium and ruthenium.

Claim 36. (Original) The process of claim 35, wherein the transition metal is nickel.

Claim 37. (Currently Amended) The process of claim 25-~~or~~-26, wherein the catalyst support has an apparent porosity in the range of about 15% to about 80%.

Claim 38. (Currently Amended) The process of claim 25-~~or~~-26, wherein the catalyst support has a mean pore diameter in the range of about 0.05 microns to about 20 microns.

Claim 39. (Currently Amended) The process of claim 25-~~or~~-26, wherein the catalyst support is a ceramic.

Claim 40. (Currently Amended) The process of claim 25-~~or~~-26, wherein the catalyst support is selected from the group consisting of silica, magnesia, titania, zirconia, beryllia, thoria, zeolites, and calcium aluminates.

Claim 41. (Currently Amended) The process of claim 35, ~~36-~~or~~-40~~, wherein the catalyst support is alumina.

Claim 42. (Currently Amended) The process of claim 25-~~or~~-26, wherein the promoter is a rare-earth metal and/or rare-earth metal salt.

Claim 43. (Original) The process of claim 41, wherein the rare-earth metal is selected from the group consisting of scandium, yttrium, lanthanum, lanthanide metals and mixtures thereof.

Claim 44. (Original) The process of claim 43, wherein the rare-earth metal is lanthanum.

Claim 45. (Currently Amended) The process of claim 42,~~-43-~~or~~-44~~, wherein the rare-earth metal salt is selected from the group consisting of rare-earth oxides, rare-earth nitrates, rare-earth carbonates, rare-earth hydroxides, rare-earth oxalates, and mixtures thereof.

Claim 46. (Original) The process of claim 45, wherein the rare-earth metal salt is lanthanum oxide.

Claim 47. (Original) The process of claim 25, wherein the acid material is nitric acid.

Claim 48. (Original) The process of claim 26, wherein the catalyst support is treated with an acid material.

Claim 49. (Currently Amended) The process of claim 25-~~or~~-26, wherein the pH is about 7.5.

Claim 50. (Currently Amended) The process of claim 31-~~or~~-32, wherein the basic material is selected from the group consisting of ammonium hydroxides, metal hydroxides, and ethylene glycol.

Claim 51. (Currently Amended) The process of claim 25-~~or~~-26, wherein the active catalytic active component is from about 20% to about 80% by weight and the catalyst support optionally containing promoter is from about 20% to about 80% by weight based on the total weight of the ~~active~~-catalytic active component and the catalyst support optionally containing promoter.

Claim 52. (Original) The process of claim 51, wherein the catalyst support contains from about 1% by weight to about 20% by weight of the catalyst support

Claim 53. (Currently Amended) The process of claim 25-~~or~~-26, further comprising reducing the supported catalyst.

Claim 54. (Original) The process of claim 53, wherein the supported catalyst is reduced using hydrogen.

Claim 55. (Currently Amended) A supported catalyst formed by the process of claim 25-~~or~~-26.

Claim 56. (Currently Amended) The supported catalyst of ~~any one of claims 1, 6, 22 to 24, and 55~~ for a steam reforming reaction.

Claim 57. (Original) The supported catalyst of claim 55 for an autothermal reforming reaction, wherein the promoter is present.

Claim 58. **(Currently Amended)** The supported catalyst of ~~any one of~~ claims 6 and ~~22 to 24~~ for an autothermal reforming reaction.

Claim 59. **(Original)** The supported catalyst of claim 55 for both a steam reforming reaction and an autothermal reforming reaction, wherein the promoter is present.

Claim 60. **(Currently Amended)** The supported catalyst of ~~any one of~~ claims 6 and ~~22 to 24~~ for both a steam reforming reaction and an autothermal reforming reaction.

Claim 61. **(Currently Amended)** The supported catalyst of ~~any one of~~ claims 1, 6, ~~22 to 24~~, and 55, wherein the supported catalyst is reduced.